1. CARDIORESPIRATORY ENDURANCE (CRE) TRAINING, The Walk-to-Run Program

All soldiers in the USAR and ARNG must pass the Army Physical Fitness Test (APFT). This test includes a timed, two-mile run event that gives an indication of your aerobic capacity. Time standards are based on age and gender. They can be found at http://www.benning.army.mil/usapfs/training/apft/index.htm. If you are not currently running on a regular basis, go to 1A. Getting Started. If you have a strong and recent fitness background or are currently running on a regular basis, go to 1C. Run Progression.

1A. Getting Started

It is best to start on a soft surface such as a track, a level grassy field or a dirt path. Properly fitting running shoes are important. For more information on selecting the best shoe for your feet, refer to http://www.benning.army.mil/usapfs/Training/ShoeSelection.htm. The following walk-to-run guidelines assume that you are able to briskly walk for 30 minutes without stopping. If you are unable to do so, you must gradually increase your walking until you meet this goal. Spend at least eight days walking before starting the walk-to-run program. For example, if you must stop or slow significantly at 20 minutes your first time out, try to add only one or two minutes to each of your subsequent walks until you reach the 30-minute goal.

1B. The Walk-to-Run Plan

If you have a strong and recent fitness or running background, then proceed to 1C. Run Progression. If you are a new runner, begin here. When new runners start a running program, they often follow a walk-run routine. That's what we will do for the first four weeks. You will alternate walking and running for the time listed on the training schedule and repeat the walk-run routine five times. We will gradually decrease the walk time and increase the run times over the first four weeks. Make sure that you properly warm-up with rotations and stretches before the walk/run activity (refer to section 3A) and properly cool-down with stretches after the walk/run activity (refer to Section 3B). You may walk or hike on the rest days, but limit the time to 30 minutes. Running form is important, review the information on running form at the end of this section. If you choose to use indoor exercise equipment as a substitute for walking on the rest days (or as a replacement for running on bad weather days) read the article at http://www.benning.army.mil/usapfs/Training/endurequip.htm.

1C. Run Progression

If you completed the walk-to-run program or have a strong fitness or running background, you are now ready to progress to the next stage of your training. The run progression starts at week 5 of the program. You will run continuously for the time period listed on the training schedule. The runs occur every other day and progress from 15 minutes to 25 minutes in duration over eight weeks. You should run at a pace that you can maintain for the entire time listed. You should not feel out of breath during the runs. If you are able to carry on a conversation as you run (the talk test), then you are probably running at the right pace. Resist the temptation to run longer than the time specified on the schedule. The program will get harder; it is designed to gradually and safely increase your endurance. You will also add intervals to the program, which will increase the intensity and help you to run faster. Make sure that you properly warm-up with rotations and

stretches before your run (refer to section 3A) and properly cool-down with stretches after the run (refer to Section 3B). You will run three times per week on nonconsecutive days. If you choose the 3-days per week option, you will also perform one set of Conditioning Drill 1 (refer to Section 2B) and Conditioning Drill 2 (refer to Section 2C) on the run days. The number of repetitions or time is listed on the training schedule.

1D. Intervals

Interval training will help you to improve your fitness level in a relatively short time and increase your running speed. In interval training, you will alternate periods of fast running with periods of walking. In this way, the energy systems used are allowed to recover, and you can do more fast-paced running in a given workout than if you continuously run without resting. Interval training is performed once a week, starting at week 6. You will start with 5 repetitions and progress to 8 as listed on the training schedule. To perform a repetition, you will run fast for 45 seconds, and then walk for 90 seconds. Don't worry about how much distance you cover in 45 seconds. It's more important to run hard for the 45 seconds, and then walk for 90 seconds. Intervals are best done on a track, but can be done anywhere that is free of traffic. All you need is a watch or stopwatch that measures seconds. Make sure that you properly warm-up with rotations and stretches before your interval training (refer to Section 3A) and properly cool-down with stretches afterwards (refer to Section 3B). On the days that you perform intervals, you will also perform one set of Conditioning Drill 1 (refer to Section 2B) and Conditioning Drill 2 (refer to Section 2C). The number of repetitions and time is listed on the training schedule.

1E. Running Form

Most discussions of how to improve running center around various workouts designed to improve speed. Often overlooked, however, is the efficiency of the running form itself. Since running form among elite runners can vary significantly, there is a tendency to let the individual find a gait to their liking and leave it alone. Indeed, running is a very fluid, natural act that may be inhibited by over-analysis. However, there are several things runners can do to improve their efficiency without overhauling their natural style. Most runners will find one or two points on which they can improve.

- Head: The head should remain over its base of support – the neck, with the chin neither pointing up or down. Allowing the head to ride forward puts undue strain on the muscles of the upper back.
- Shoulders: The shoulders should assume a neutral posture – neither rounded forward or forcefully arched backward. Rounding the shoulders forward is the most common fault in everyday posture as well as with running. This is usually associated with tightness of the chest and shoulders. Another problem occurs when the shoulders start to rise with fatigue or increased effort. This position not only wastes energy, but also can also adversely affect breathing.
- Arms: Throughout the arm swing, the elbows should stay at roughly a 90-degree bend. The wrists stay straight and the hands remain loosely cupped. The arm swing should be free of tension, but do not allow the hands to cross the midline of the body.
- Trunk and Pelvis: Like the head, the trunk should remain over its base of support – the pelvis. A common problem with fatigue is allowing the trunk to get in front of the legs and pelvis. This forces the lower back muscles to spend too much energy resisting further trunk collapse to the front.
- Legs: For distance running, much of the power comes from below the knee. Energy is wasted as the knees come higher and the big muscles around the hips and thighs get involved. Practice getting a strong push-off from the ankle of the back leg. This helps to naturally lengthen the stride. Lengthening the stride by reaching forward with the front leg will be counterproductive.
- Feet: For most people, the feet should be pointing directly forward while running. With fatigue and certain muscle imbalances, the legs and feet will start to rotate outward. This hinders performance and may create abnormal stresses that cause injury. Refer to the Shoe Selection article http://www.benning.army.mil/usapfs/training/shoeselection.htm on the USAPFS website for detailed information on the biomechanics of the feet and the best means of choosing a running shoe.

2. MUSCULAR STRENGTH AND ENDURANCE (MSE) TRAINING

MSE refers to your ability to overcome resistance. The APFT will require muscular endurance to perform the push-up, sit-up, and run assessments. You will be scored based on the number of repetitions you can perform in 2-minutes. Standards are based on age and gender and can be found at http://www.benning.army.mil/usapfs/training/apft/index.htm.

2A. Getting Started

Strength training does not require a gym or expensive equipment. In fact, it is best to start with just the resistance of your own body to develop proper form. Calisthenic exercises can be performed at home in a relatively small space and in a time-efficient manner. They build strength and endurance by challenging control of your body weight as you move into and out of different positions. Below are two conditioning drills that you should perform 3 times per week as listed

on the training schedules. The drills will help to improve your overall physical condition and also train the muscle groups that you will use in the APFT.

2B. Conditioning Drill 1

Conditioning Drill 1 (CD 1) consists of a variety of movements that develop motor skills while challenging strength, endurance, and flexibility. The exercises in the drill are always performed in the sequence listed. Start with five repetitions of each exercise and progress to ten repetitions as shown in the training schedule. To perform more repetitions, repeat the drill in its entirety. Precise execution should never be sacrificed for speed. CD 1 consists of the following ten exercises:

Conditioning Drill 1
1. The Bend and Reach
2. The Lunger
3. The High Jumper
4. The Abdominal Crunch
5. The Squat Bender
6. The Side-straddle Hop
7. The Squat Bender
8. The Swimmer
9. The Supine Bicycle
10. The Push-up

To begin using Conditioning Drill 1, go to Appendix B.

2C. Conditioning Drill 2

Conditioning Drill 2 (CD 2) is designed to enhance strength and endurance in the muscle groups tested on the APFT. As in Conditioning Drill 1, all exercises are to be performed in the sequence listed. CD 2 exercises are performed in timed sets starting at 30 seconds and progressing to 60 seconds. CD 2 consists of the following exercises:

Conditioning Drill 2
1. The Supine Bicycle
2. The Push-up
3. The Sit-up
4. The Push-up
5. The Abdominal Crunch

To begin using Conditioning Drill 2, go to Appendix C.

3. FLEXIBILITY TRAINING

Flexibility is enhanced by stretching daily during the warm-up and cool-down. The Stretch Drill provides a variety of exercises that are designed to improve flexibility in most major muscle groups of the body.

3A. Warm-up

You must prepare your body before taking part in vigorous physical activity. A warm-up may help prevent injuries and maximize performance. The warm-up increases the body's internal temperature and the heart rate. The chance of getting injured decreases when the heart, muscles, ligaments, and tendons are properly prepared for exertion. A warm-up should include some running in place or slow jogging, stretching, and calisthenics. It should last five to seven minutes and should occur just before the cardiorespiratory or muscular endurance and strength part of the workout. After a proper warm-up, you will be ready for a more intense conditioning activity.

A recommended sequence of warm-up activities follows. You should do these for five to seven minutes at the beginning of every session.

- Slow jogging-in-place or walking for one to two minutes. This causes a gradual increase in the heart rate, blood pressure, circulation, and increases the temperature of the active muscles.
- Perform the Rotation Drill. Slow joint rotation exercises (for example, arm circles, knee/ankle rotations) gradually increase the joint's range of motion. Work each major joint for 5 to 10 seconds.
- Perform the Stretch Drill. Slowly stretch the muscles to be used during the upcoming activity. This will "loosen up" muscles and tendons so they can achieve greater ranges of motion with less risk of injury. Hold each stretch position for 10 to 15 seconds, and **do not bounce or bob**.

The Rotation Drill and the Stretch Drill consist of the following exercises:

Rotation Drill
1. The Neck Rotation
2. The Arm and Shoulder Rotation
3. The Hip Rotation
4. The Knee and Ankle Rotation

The Stretch Drill
1. The Neck and Shoulder Stretch
2. The Abdominal Stretch
3. The Chest Stretch
4. The Upper Back Stretch
5. The Overhead Arm-pull
6. The Thigh Stretch Variation
7. The Hamstring Stretch
8. The Groin Stretch
9. The Calf Stretch Variation Toe Pull
10. The Hip and Back Stretch Seated

To begin using the Rotation Drill and the Stretch Drill, go to Appendix A.

3B. Cool-down

You should cool-down properly after each exercise period, regardless of the type of workout. The cool-down serves to gradually slow the heart rate and helps prevent pooling of the blood in the legs and feet. During exercise, the muscles squeeze the blood through the veins. This helps return the blood to the heart. After exercise, however, the muscles relax and no longer do this, and the blood can accumulate in the legs and feet. This can cause you to faint. A good cool-down will help avoid this possibility.

You should walk and stretch until your heart rate returns to less than 100 beats per minute (BPM) and heavy sweating stops. This usually happens five to seven minutes after the conditioning session.

Repeat the Stretch Drill during cool-down holding stretches for 30 seconds to improve flexibility.

To begin using the Stretch Drill, go to Appendix A.

4. BODY COMPOSITON

Body composition is the amount of body fat you have in comparison to you total body weight. The Army has a weight control program to insure that all personnel are able to meet the physical demands of their duties under combat conditions and present a trim military appearance at all times. A certain amount of body fat is essential, however, too much body fat can negatively affect your performance at basic training and increase your risk of injury. An appropriate body composition is best gained through proper nutrition and exercise. Food is more than fuel that just stops our hunger. It contains essential nutrients, which help us to maintain optimal health and top performance. Developing good eating and exercise habits now will also help promote good health and performance throughout your military career. How you eat today can affect health status as you age. Many diseases that afflict older generations have a direct correlation with poor nutritional habits throughout life. Osteoporosis, a disease that causes the bones to become brittle, is linked to a lack of calcium intake between the ages of 10 and 30 years old. You can pay for your lack of good nutrition for up to 40 years after those poor nutritional choices occurred. There is no one perfect diet that can be applied to all individuals and there is no single magic food. A good eating plan will involve many choices on a daily basis. Your food choices should be guided by the *Dietary Guidelines for Americans*:

Dietary Guidelines for Americans

A. Aim For Fitness
- Aim for a healthy weight.
- Be physically active each day.

B. Build a Healthy Base…
- Let the Pyramid guide your food choices.
- Choose a variety of grains daily, especially whole grains.
- Choose a variety of fruits and vegetables daily.
- Keep food safe to eat.

C. Choose Sensibly…
- Choose a diet that is low in saturated fat and cholesterol and moderate in total fat.
- Choose beverages and foods to moderate your intake of sugars.
- Choose and prepare foods with less salt.
- If you drink alcoholic beverages, do so in moderation.

A. Aim for Fitness

Your weight and/or body fat was or will be measured during your routine medical exam or last weigh in. Take a look at the weight allowed for your height as shown in Table 1. If you exceed the weight listed for your height, you may not necessary be over fat. Some well-muscled individuals have body weights that far exceed the values for weight listed on the charts for their age, gender, and height. Yet, only a small percentage of their total body mass may be fat. If you don't fall into the well-muscled category, it's time to starting making some changes to your lifestyle.

This exercise program meets the requirement to be physically active everyday. However, you will still need to make some small changes to your diet to so that you can report to basic training at an appropriate body composition. Losing one to two pounds a week is a realistic goal, which is best accomplished by a combination of eating less and exercising more.

Height (inches)	Female Maximum Weight (pounds)				Male Maximum Weight (pounds)			
	Age				Age			
	17-20	21-27	28-39	40 +	17-20	21-27	28-39	40 +
58	109	112	115	119	N/A	N/A	N/A	N/A
59	112	116	119	123	N/A	N/A	N/A	N/A
60	116	120	123	127	132	136	139	141
61	120	124	127	131	136	140	144	146
62	125	129	132	137	141	144	148	150
63	129	133	137	141	145	149	153	155
64	133	137	141	145	150	154	158	160
65	137	141	145	149	155	159	163	165
66	141	146	150	154	160	163	168	170
67	145	149	154	159	165	169	174	176
68	150	154	159	164	170	174	179	181
69	154	158	163	168	175	179	184	186
70	159	163	168	173	180	185	189	192
71	163	167	172	177	185	189	194	197
72	167	172	177	183	190	195	200	203
73	172	177	182	188	195	200	205	208
74	178	183	189	194	201	206	211	214
75	183	188	194	200	206	212	217	220
76	189	194	200	206	212	217	223	226
77	193	199	205	211	218	223	229	232
78	198	204	210	216	223	229	235	238
79	203	209	215	222	229	235	241	244
80	208	214	220	227	234	240	247	250
Max Allowable Body Fat	30%	32%	34%	36%	20%	22%	24%	26%

Table 1. Screening table weight. Reproduced from AR 600-9, table 1.

B. Build a Healthy Base…

People always want to know if a particular food is good or bad for them. No single food choice is necessarily a bad choice. Too many bad choices over time can accumulate into a poor diet. Poor choices like a lunch of soda, chips, and a greasy hamburger once in a while will be balanced out by a better choice like a turkey sandwich with low-fat dressing on whole wheat bread and fruit on a regular basis. Eating for performance and health doesn't mean that you have to give up your favorite foods.